

CIT 591 Introduction to Software Development

Spring 2020

Instructor

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Course Description

This course is an introduction to fundamental concepts of programming and computer science, including principles of modern object-oriented programming languages: abstraction, types, polymorphism, encapsulation, inheritance, and interfaces. This course also focuses on best practices and aspects of software development such as software design, software testing, version control, and using IDEs.

Course Learning Objectives

- Write a large program in Java using basic programming language constructs
- Use object-oriented programming techniques to separate parts of a program
- Identify and write a set of comprehensive test cases
- Use development environments, tools, and frameworks for modern software development

Course Prerequisites

There are no prerequisites for this class. No prior programming background is expected.

Course Textbook

Required

Big Java: Early Objects, 6th Edition

By: Cay S. Horstmann, San Jose State University

ISBN 978-1119056447

[eTextbook](#)

Recommended

If you are seeking a supplemental resource, please see:

Java How to Program, Early Objects, 11th Edition

By: Paul J. Deitel and Harvey Deitel

ISBN-13: 978-0-13-475196-2

[Online access](#)

Grading & Assessment

You must attempt all graded assignments to pass the course. If you have any questions or concerns about grading or progress in the course, please reach out to the Instructor.

This course will use a variety of assessments to determine whether learners understand and can apply the key concepts and skills that the course teaches. This includes:

| Type | % | Description |
|------------------------|-----|---|
| Participation | 10% | There are numerous opportunities for participation in this course. Participation will include coding activities, textbook reviews, and assignment milestones. Coding activities are designed to give you the opportunity to practice smaller coding activities in a live coding environment. Textbook reviews are an opportunity to reflect on the readings. Assignment milestones are designed to check-in on assignment progress. |
| Individual assignments | 50% | There are five individual Assignments, or “Homework”, that will fall roughly every other week. Some will use a combination of Codio and Coursera for submission, and sometimes you will need to submit in more than one place. For two assignments, you will also participate in peer reviews. |
| Final Project | 20% | There is one final project, which will be a group project. You will use Java to create a programmatic solution to a problem of your choice. To pace the workload, the project is divided into milestones: your team will first submit a proposal, then submit early code (classes and methods), then the final submission. |
| Final Exam | 20% | There is one final exam. This will be a timed exam using live online proctoring at the end of the course. |

Please read the instructions for each assignment very carefully to make sure you know where to submit to receive credit!

The following grading criteria applies. All percentages rounded up to 2 decimals. (This policy is subject to change.)

| | | |
|----------------|----------------|-------------------|
| A+ 97 - 100% | B 83 - 86.99% | C- 70-72.99% |
| A 93 - 96.99% | B- 80 - 82.99% | D+ 67-69.99% |
| A- 90 - 92.99% | C+ 77 - 79.99% | D 63-66.99% |
| B+ 87 - 89.99% | C 73 - 76.99% | F 62.99% or below |

Late Policy

An assignment that is turned in late will receive a 10% grade reduction per day up to 3 days. Extensions beyond 3 days are generally not approved. For extraordinarily extenuating circumstances, please email MCITonline@seas.upenn.edu.

Regrade Requests

Regrade requests are allowed up to 1 week after the grades are released. Requests must be created through a private post on Piazza, which must be made visible to “all instructors.” Any requests made to an individual Professor or TA will not be regraded until the visibility is set to “all instructors.” Regrade requests may take up to a week to process.

Please point out where you feel the grader might have made a mistake when you submit these requests.

Extra Credit

Students have an opportunity to earn extra credit points if they participate in the Final Project Fair - either by presenting in the live sessions or posting a video in the Final Project Fair discussion forum. Earned extra credit will be considered by the instructor at the time of assigning the final grade at the instructor’s discretion. If you do not complete extra credit, it will not count against you.

Other Course Activities

The following activities are not mandatory, but will greatly support your success on the graded assignments.

Discussion Forum

Discussion forums (on Piazza) are designed to give you optional extra practice with the material, and to see examples of how your classmates are thinking and working.

Recitation

Recitations are weekly live sessions with your TAs designed around some kind of problem/activity that is supposed to take about an hour to solve. TAs will answer questions as you work through the problem or answer questions that you have submitted in advance of the session. If you are not able to attend either of the scheduled recitation times, you can review a recording of the session, posted the day after.

Additional Segments

The professor may add additional optional segments to support the class as needed.

Creating an Inclusive Environment

All members of the course community – the instructor, TAs, and students – are expected to work together to create a supportive, inclusive environment that welcomes all students, regardless of their race, ethnicity, gender identity, sexuality, religious beliefs, physical or mental health status, or socioeconomic status. Diversity, inclusion, and belonging are all core values of the MCIT Online program, the instruction staff, and this course. **All participants in this course deserve to and should expect to be treated with respect by other members of the community.**

Discussion boards, messaging channels, recitations, office hours, and group working time should be spaces where everyone feels welcome and safe. In order to facilitate a welcoming environment, students of this course are expected to:

- Exercise consideration and respect in their speech and actions
- Attempt collaboration and consideration, including listening to opposing perspectives and authentically and respectfully raising concerns, before conflict
- Refrain from demeaning, discriminatory, or harassing behavior and speech

All members of the course community are expected to be familiar with and abide by the University's guidelines on general conduct and sexual harassment:

- University Code of Conduct:
<https://catalog.upenn.edu/pennbook/code-of-student-conduct/>
- University Sexual Harassment Policy:
<http://www.upenn.edu/affirm-action/introsh.html>

Students should also be familiar with other University guidelines regarding personal conduct:

- Conduct & Personal Responsibility guidelines in Pennbook:
<https://catalog.upenn.edu/pennbook/#policiesbytopictext>
- University Principles of Responsible Conduct:
http://www.upenn.edu/audit/oacp_principles.htm

If you are a victim of, witness, or are otherwise affected by unacceptable behavior:

- In cases of sexual harassment or assault, please consult DPS Special Services (<https://www.publicsafety.upenn.edu/about/special-services/sensitive-crimes/> at 215-573-3333; this is a confidential resource.
- To report other bias incidents, contact the Penn Office of Diversity:
<https://diversity.upenn.edu/diversity-at-penn/bias-motivated-incident-report>
- For other violations of the code of student conduct, the Office of Student Conduct has an incident reporting form at <https://www.osc.upenn.edu/referral-form>

If you are unsure which office to contact, please contact the instructor or any Penn Engineering Online Learning staff member.

Getting and Giving Help

TA and Faculty Support

TAs will hold office hours weekly, when they will offer 15-minute time slots on a sign-up basis. Your instructor will be available for open office hours (anyone can sign up) during two one hour slots every week. They will also be available for a limited number of private meetings per week, depending on the needs of the individual student.

Collaboration Guidelines

In the professional world of software development, collaboration—including using code that others have written—is both practical and ubiquitous.

However, to prepare for entering that professional context, you need to develop a full set of software development skills so that you are both able to create your own code and evaluate the quality of someone else's code that you might use.

In the context of this course, independent work and evaluation is critical. **Do not collaborate with others on individual graded assignments unless it is explicitly indicated.** Inappropriate collaboration will be considered cheating and considered under Penn's [Code of Academic Integrity](#).

Discussion forums on Piazza, recitation, and your group project *are* collaborative—please take advantage of those times to work with your colleagues. For general communication with your colleagues, use your Slack channels or Slack direct messages.

If you want to post code that directly pertains to an assignment on Piazza, please mark the post to be private (and to all instructors). Please limit such posts to reasonably short snippets of your code. If you feel a TA needs to read all of your code, please book an office hour slot instead.

Spring 2020 Course Schedule and Important Dates

Dates are subject to change. Please check Piazza for announcements regarding schedule changes.

| Date | Milestone |
|---------------------|---|
| Monday, January 13 | <ul style="list-style-type: none"> • Term Begins |
| Monday, January 20 | <ul style="list-style-type: none"> • Assignment 1 (Strings and Classes) Due • Module 1 Textbook Reading Due (Participation) |
| Monday, January 27 | <ul style="list-style-type: none"> • Milestone for Assignment 2 Due • Module 2 Textbook Reading Due (Participation) • Module 2 Review Activities Due (Participation) |
| Monday, February 3 | <ul style="list-style-type: none"> • Assignment 2 (Simulations) Due • Module 3 Textbook Reading Due (Participation) • Module 3 Review Activities Due (Participation) |
| Monday, February 10 | <ul style="list-style-type: none"> • Milestone for Assignment 3 Due |

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|------------------------------------|---|
| | <ul style="list-style-type: none"> Module 4 Review Activities Due (Participation) |
| Monday, February 17 | <ul style="list-style-type: none"> Assignment 3 (Blackjack Solitaire) Due Peer Review for Assignment 3 Due Module 5 Textbook Reading Due (Participation) Module 5 Review Activities Due (Participation) |
| Monday, February 24 | <ul style="list-style-type: none"> Milestone for Assignment 4 Due Module 6 Textbook Reading Due (Participation) Module 6 Review Activities Due (Participation) |
| Monday, March 2 | <ul style="list-style-type: none"> Final Project Opens Assignment 4 (Spell Checker) Due Peer Review for Assignment 4 Due Module 7 Textbook Reading Due (Participation) |
| Monday, March 9 | <ul style="list-style-type: none"> Milestone for Assignment 5 Due Module 8 Review Activities Due (Participation) Project Proposal Due Project Teams Check-in Survey Due |
| Monday, March 9 - Sunday, March 15 | <ul style="list-style-type: none"> No Classes (Spring Break) |
| Monday, March 16 | <ul style="list-style-type: none"> (Nothing Due - Work on your Projects) |
| Monday, March 23 | <ul style="list-style-type: none"> Assignment 5 (Data Science with Airlines) Due Module 9 Textbook Reading Due (Participation) |
| Monday, March 30 | <ul style="list-style-type: none"> (Nothing Due - Work on your Projects) |
| Monday, April 6 | <ul style="list-style-type: none"> Project Design Due |
| Monday, April 13 | <ul style="list-style-type: none"> Module 12 Textbook Reading Due (Participation) |
| Monday, April 20 | <ul style="list-style-type: none"> Module 13 Review Activities Due (Participation) |
| Monday, April 27 | <ul style="list-style-type: none"> Final Project Due Teammate Review Due |
| Thursday, April 30 - Sunday, May 3 | <ul style="list-style-type: none"> Final Exam (Module 1-14) |